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CHRISTINE TODD WHITMAN
Governor

BLOSSOM A. PERETZ, ESQ.
Ratepayer Advocate and Director

January 23, 1997

VIA OVERNIGHT COURIER

William A. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Federal-State Joint Board on Universal Service --
Proxy Cost Models
CC Docket 96-45; DA 97-88

Dear Secretary Caton:

Enclosed please find an original and five copies of the comments of the New Jersey Division of the Ratepayer Advocate regarding the Telecom Economic Cost Model, developed by Ben Johnson Associates, Inc. and submitted by this office to the Federal-State Joint Board on Universal Service for consideration as the proxy cost model for determining the cost of providing the service supported by the universal service support mechanism. These comments are intended to supplement our previous filing submitted on January 7, 1997 to the Joint Board and Staff regarding the Telecom Economic Cost Model.

Please time/date stamp the copy marked "File" and return it to this office in the enclosed, self-addressed stamped envelope.

Respectfully submitted,
Blossom Peretz, Ratepayer Advocate

By: _____
Jonathan Askin, Esq.
Assistant Deputy Public Advocate

Enc.
cc: Federal-State Joint Board and Joint Board Staff (1 copy each)
Sheryl Todd (4 copies and one diskette copy)
International Transcription Service, Inc. (1 copy)

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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of the Federal-State	)	
Joint Board on Universal Service	)	CC Docket No. 96-45
Staff Workshops on	)	
Proxy Cost Models	)	DA 97-88

Comments of the New Jersey Division of the Ratepayer Advocate
Concerning the Strengths of the Telecom Economic Cost Model

Summary

The New Jersey Division of the Ratepayer Advocate ("Ratepayer Advocate"), which was created by Governor Christine Todd Whitman to protect and advance the interests of all classes of New Jersey's utility ratepayers, files these supplemental comments in support of the Telecom Economic Cost Model. The Ratepayer Advocate recommends that the Joint Board accept the Telecom Economic Cost Model as the appropriate model for calculating the cost of providing the services to be supported through the new federal universal service support mechanism.

The Telecom Economic Cost Model offers some important advantages over the two other models submitted for consideration at the January 14 and 15 workshops. It is more flexible, and offers greater versatility than either the Benchmark Cost Proxy Model ("BCPM"), sponsored by Pacific Telesis, US West and Sprint, or the Hatfield model, sponsored by AT&T and MCI. Unlike these alternatives, which are single or dual purpose models, the model sponsored by the Ratepayer Advocate is a general purpose economic model, which is capable of providing straightforward answers to numerous different questions of interest to federal and state regulators, current and potential carriers, investment bankers, and other observers of the telecom industry.

Unlike the BCPM and Hatfield models, the Telecom Economic Cost Model allows the user to easily develop cost estimates covering a wide range of different scenarios, to reflect differences in the customer characteristics, network configurations, market shares, and geographic scopes of multiple carriers serving a particular market. This greater flexibility is fundamental to the interactive structure of the model. The model's orientation around individual wire centers, and its thoughtfully designed visual interface, encourage users to explore a wide variety of different questions, rapidly obtaining meaningful answers without being forced to develop external calculations or *ad hoc* modifications of either the model or the underlying data bases.

The Telecom Economic Cost Model is a completely "open" model, which has been created

entirely within industry-standard spreadsheet software (Microsoft Excel). All of the algorithms and logic are readily available for review and auditing (there are no locked cells or inaccessible sections of the model). There are more than 500 user adjustable input assumptions, which are well organized, carefully labeled, and easily modified, enabling anyone familiar with spreadsheet software to readily adapt the model to specific geographic locations, to study alternative scenarios, carriers, and markets, and to improve the precision of the estimates.

Comments

The Telecom Economic Cost Model developed by Ben Johnson Associates, Inc.®, offers some very important advantages over both the other models submitted to the Joint Board (the BCPM and Hatfield models).

1. Provides More Precision

In comparing the three models, it is apparent that the Telecom Economic Cost Model offers the most detailed, and most useful, array of financial, technical and other inputs, thereby providing the Joint Board with the maximum level of control over the model and its outputs. In many of the most important subject areas, the structure and format of the inputs and/or the algorithms offer the Joint Board greater flexibility, and encourages the development of more precise estimates of costs.

It is not reasonable to rely entirely upon a computer model used in a mass-processing mode to determine levels of payments to carriers from a Universal Service Fund. At least with regard to some of the most important model inputs (*e.g.*, hourly labor rates), a more detailed approach is needed.

Needless to say, the Joint Board will not need to utilize the full level of precision offered by the Telecom Economic Cost Model--which at least theoretically could allow every input to be varied for every wire center. However, the Joint Boar may find several of this model's features to be particularly useful in developing accurate cost estimates. In these comments, we call attention to some specific examples which the Ratepayer Advocate believes are particularly significant -- most notably the ability to distinguish between hourly labor rates (which tend to be higher in areas like New Jersey) and labor time requirements (which tend to either be uniform across the country, or vary on a different pattern than the hourly rates).

The larger number of user inputs and higher level of detail offered by the Telecom Economic Cost Model may seem to be of limited significance to the Joint Board at this time, because time constraints limit the ability of the carriers and other parties to offer detailed support for any differences in input values that might apply to their individual situation. However, the ability to develop more precise cost estimates will prove invaluable in future years, when the Joint Board attempts to expand the coverage of the fund to include smaller companies, serving more extreme areas, like the state of Alaska. For these jurisdictions and companies, the amount of the Universal Service Fund payments will have a substantial impact on the financial health of the carrier, and thus a high degree of precision and modeling effort is vital. In this regard, the Telecom Economic

Cost Model offers some very significant advantages, relative to the two other models.

Funds should not flow from a Universal Service Fund on the basis of proxy cost model outputs without allowing the affected parties a chance to provide comments or evidence concerning the appropriate level of input values for their geographic area and to compare costs in their area with those elsewhere. In this regard, the Telecom Economic Cost Model offers an important advantage over the BCPM and Hatfield models. The latter models have fewer inputs, which may seem to simplify the process of reviewing and commenting on the appropriate level of input values. In practice, however, this simplification is achieved by lumping numerous different factors together into a single input, making it exceedingly difficult to judge the reasonableness of each input assumption, or to evaluate the merits of alleged differences between different carriers and different parts of the country. For instance, in the other models the costs of installing cable tend to be treated as a lump sum per foot. This approach is simple, but it obscures important distinctions, which are more accurately reflected in the Telecom Economic Cost Model.

Some examples follow:

Labor rate vs. hours of labor. In comparing the three models submitted to the Joint Board, it is apparent that the Telecom Economic Cost Model does the best job of distinguishing between materials costs and labor costs. In the loop portion of the model, it allows the user to distinguish between the number of hours or minutes required to perform specific functions (*e.g.*, placing or splicing cable), and the hourly cost of the workers that perform these functions. The time requirements can be adjusted by the user, to the extent they vary with differences in climate, distance from the work force, terrain, and other relevant factors applicable to a particular wire center or group of wire centers. The hourly labor rates can also be adjusted, to match the average labor rates applicable to a particular wire center, group of wire centers, carrier, state, or region.

This strength of the Telecom Economic Cost Model is particularly significant in the context of a Universal Service Fund, where the whole focus of the effort should be on identifying and measuring differences in cost between high cost areas and other, more typical parts of the country. One can expect hourly labor costs to be higher for some locations, like New Jersey, which have a high cost of living and higher than average wage levels, and lower for other locations, like Mississippi, which have a low cost of living and lower than average prevailing level of wages. Data from the U.S. Department of Labor and other sources can be used to confirm or refute allegations that labor costs are higher or lower in a particular geographic area. The actual time required to perform many tasks (*e.g.*, splicing cable) should be relatively similar throughout the country. However, some specific tasks (*e.g.*, installing a pole) can vary quite substantially, depending upon climate, soil conditions, and other factors. By isolating specific variables, and allowing the user to directly control these variables without the necessity for extensive side calculations, the Telecom Economic Cost Model makes it easier to precisely measure cost differences between different areas, and it makes it easier for affected parties to meaningfully debate the merits of any claims that costs are extraordinarily high in a particular geographic area.

Copper versus fiber cable: In all three models, the mix of fiber and copper cable is controlled by

the user, by specifying a "crossover" point (loop length or distance from the wire center) beyond which fiber is selected. Unlike the BCPM, the Telecom Economic Cost Model does not limit the user to a handful of pre-determined cross-over points, thereby allowing the user to select the point which best fits a carrier's actual plans, or the point which minimizes cost. Unlike either of the other models, it offers the user the option of specifying the minimum number of lines served by each remote fiber electronic terminal. This provides additional flexibility in specifying the network configuration which maximizes the deployment of fiber at reasonable cost, or which best minimizes cost.

Individual wire centers. Unlike the BCPM and Hatfield models, virtually all of algorithms in the Telecom Economic Cost Model are devoted to calculating the cost of a single wire center. This unique model structure offers several advantages: it allows the user to very quickly see the effect of changing an input; it allows the user to quickly compare two or more different types of cost; it facilitates detailed review of the components of the cost estimate; and it simplifies the underlying algorithms, making it feasible to introduce additional complexity where necessary to achieve greater flexibility or precision.

The model calculates costs on a detailed basis within each wire center, and it can aggregate and report cost results for two density zones within each wire center. However, it doesn't overwhelm the user with information at an extremely small level of geographic disaggregation (*e.g.,* census block groups). This approach encourages the user to achieve a deeper understanding of the cost estimates, and the model, by studying one or more individual wire centers in considerable detail. This structure also facilitates development of more precise cost estimates, since it does not limit the user to a limited number of pre-defined density cells or categories. The user can modify any and all inputs for individual wire centers, or for any specified group of wire centers. In contrast, the other two models offer a lower level of flexibility and precision. They allow the user to easily vary inputs based upon a limited number of pre-defined density categories; they don't provide a convenient way to adjust inputs on the basis of user-defined density categories, differing market conditions, or demographic characteristics of the geographic area served by an individual wire center.

For example, the Telecom Economic Cost Model allows the user to specify a different mix of underground, aerial, and buried plant for each individual wire center, if so desired. The user can select the most appropriate percentages for each wire center, in order to match the actual mix of facilities in that area based upon historic engineering records, or based upon whatever information is available concerning local terrain, climate, zoning regulations, and other relevant factors. Similarly, the user can select the mix which minimizes cost in that particular serving area, by varying the percentages until the optimal mix is found.

2. Provides More Flexibility and Versatility

Ability to vary assumptions. The model provides the capability to examine and modify the critical assumptions and engineering principles. In this regard, the Telecom Economic Cost Model is far superior to the BCPM and Hatfield models: (a) It offers the user a wider array of

controllable inputs, thereby allowing the achievement not only of a higher level of precision but also greater flexibility in dealing with underlying engineering principles. For example, the model is not limited to specific brands of equipment and thus allows the user flexibility to accommodate new or changing equipment choices. (b) It organizes the inputs more conveniently, thereby speeding the process of review and modification. (c) It provides more convenient access to the underlying algorithms. (d) It allows the user to see all of the algorithms and allows full use of the "Auditing" tool in Excel to trace from inputs to outputs and vice versa. The model allows different depreciation and expenses for different facilities. Although the model uses only a single cost of capital, this rate can be easily modified. Hence, the user can readily observe the impact of different costs of capital for different facilities, functions and elements by modifying that rate.

Carrier market share(s) Whereas current versions of the other models are designed for a monopoly environment, in which a single carrier has 100% market share. In contrast, the Telecom Economic Cost Model allows the user to quickly and easily see the effect of changing market shares. Hence, the model can examine costs from multiple perspectives--that of the incumbent LEC plus any reasonable number of new entrants. Furthermore, it can analyze scenarios in which a carrier serves a higher share of the business market than of the residential market (or *vice versa*). Similarly, market share assumptions can differ for each wire center, and for two zones within each wire center.

Different types of economic cost: A key feature of the Telecom Economic Cost Model is its versatility in allowing users to compare and contrast a wide variety of different economic cost concepts. The model can develop five broad categories of long-run economic cost estimates: Long-Run Average Cost ("LRAC"), Total Service Long-Run Incremental Cost ("TSLRIC"), Total Element Long Run Incremental Cost ("TELRIC"), Long-Run Marginal Cost of a Service ("LRMCS"), and Long Run Marginal Cost of an Element ("LRMCE"). Within each of these broad categories, a variety of different specific long-run cost estimates can be developed. This versatility creates numerous options for the user.

For example, the model can estimate the incremental cost of adding low income households to the network in two different ways: the user can estimate the Long Run Marginal Cost ("LRMC") of single-line residence service, or the user can prepare a Total Service Long Run Incremental Cost ("TSLRIC") study focused on the incremental cost of adding a specified volume of additional (e.g. low income) households to the network. Similarly, the model can also be used to compute the TSLRIC of adding business customers to a network that otherwise would only serve residential customers, the stand-alone cost of a network that serves only business customers, and a variety of different types of marginal and incremental cost. The model can also accommodate a variety of different approaches to joint and common costs.

The versatility of the Telecom Economic Cost Model vividly demonstrates that a general purpose model can serve the needs of regulators with regard to multiple purposes. A network specifically dedicated to universal service objectives could differ significantly from a network which is designed with a very high level of fiber, in order to accommodate video dial tone or other broadband services. To the extent the latter network design is used in the costing and pricing of network elements envisioned in Section 251, the resulting cost estimates could differ. However,

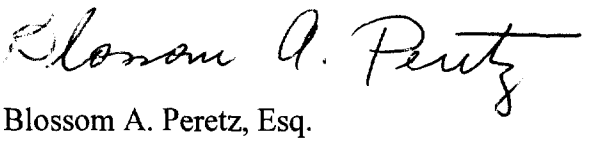
there is no need to use different models to develop these different estimates. The Telecom Economic Cost Model has the versatility to help regulators and other parties deal with numerous different issues. By using the same model for multiple purposes, one can better understand the underlying nature of the costs and more readily identify the factors which cause differences in cost estimates.

Conclusion

Finally, the New Jersey Ratepayer Advocate thinks it is important for the Joint Board to have the choice of accepting a model from an entity without a vested financial interest in the Joint Board's decision over which proxy cost model to accept. The Ratepayer Advocate is the only sponsor of a proxy cost model that does not stand to profit from the Joint Board's acceptance of its model, except to the extent that New Jersey consumers will ultimately benefit from the use of a straightforward, open, flexible, versatile and user-friendly model.

The Telecom Economic Cost Model offers several advantages when compared with the BCPM, sponsored by US West and two other large incumbent LECs, and the Hatfield Model, sponsored by MCI and AT&T. The model sponsored by the New Jersey Ratepayer Advocate is more flexible, it contains several useful features not offered by the current versions of the other two models, and it is more user friendly. It is capable of providing straightforward results covering a wide range of scenarios, reflecting differences in the customer characteristics, network configurations, market shares, and geographic scopes of multiple carriers serving each area. As such, the New Jersey Division of the Ratepayer Advocate respectfully requests that the Joint Board consider adopting the Telecom Economic Cost Model as the proxy cost model to calculate the cost of providing the services to be supported through the new universal service support mechanism.

Respectfully submitted,



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Dated: January 23, 1997

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